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- (71) Applicant (for all designated States except US): AGRE-SEARCH LIMITED [NZ/NZ]; East Street, Ruakura Campus, 2001 Hamilton (NZ).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): HEATH, David, Duncan [NZ/NZ]; AgResearch Limited, Wallaceville Animal Research Centre, Ward Street, 6007 Upper Hutt (NZ).
- (74) Agents: WELLS, Ceri, P, K et al.; James & Wells, Private Bag 3140, Level 12, KPMG Centre, 85 Alexandra Street, 2001 Hamilton (NZ).
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- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A NOVEL DRUG DOSING REGIMEN

(57) Abstract: A process for administering to an animal progressively increasing doses of one or more biologically active agents which are released over a predetermined period of time from a delivery means which is administered to an animal on a single occasion.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/NZ03/00115

A. CLASSIFICATION OF SUBJECT MATTER												
Int. Cl. ⁷ : A61K 9/22, 9/54, 39/00, 39/08, A61P 33/10, 31/04												
According to International Patent Classification (IPC) or to both national classification and IPC												
B. FIELDS SEARCHED												
Minimum documentation searched (classification system followed by classification symbols)												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI, MEDLINE Keywords: vaccin, immunis, immuniz, single, pulse, pulsatil, delayed action, delayed, sustained, slow, controlled, stepwise, stepped, progressively increas, release												
C. DOCUMENTS CONSIDERED TO BE RELEVANT												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
X	WO 0074655 A2 (PERIO PRODUCTS LTD) 14 December 2000 Entire document, Figs 22 and 24	1-32										
X	WO 0107079 A1 (BOMAC LABORATORIES LIMITED) 1 February 2001 Entire document, page 10 lines 7-13, figures	1-32										
X	US 6010492 A (Jacobsen et al.) 4 January 2000 Abstract	26										
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention											
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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family											
"P" document published prior to the international filing date but later than the priority date claimed												
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Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929		Authorized officer TERRY SUMMERS Telephone No : (02) 6283 3126										

INTERNATIONAL SEARCH REPORT

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Gupta R K et al., Biodegradable polymer microspheres as vaccine adjuvants and delivery systems, <i>Dev Biol Stand</i> 1998, 92, 63-78 Entire document, page 70 last para, Fig 2	1-32
X	Cleland J L et al., Development of a single-shot subunit vaccine for HIV-1. 5. programmable in vivo autoboot and long lasting neutralizing response, <i>J Pharm Sci</i> , 1998, 87(12), 1489-95 Entire document, page 1490 para bridging columns 1 and 2, pages 1493 column 1 para 3- - page 1494 column 2 para 1	1-32
X	Theeuwes F and Yum S I, Principles of the design and operation of generic osmotic pumps for the delivery of semisolid or liquid drug formulations. <i>Ann Biomed Eng</i> , 1976, 4(4), 343-353. Abstract, figures	26

PCT/NZ03/00115

Patent Document Cited in Search Report

WO	200074655	AU	200054582	CA	2375714	EP	1189601
		US	2002110593				

WO 200107079 AU 200063260

US	6010492	AU	57053/98	US	5782799	WO	9834672
		US	6056734	EP	1051991	JP	2000189514
		JP	2000166951				

END OF ANNEX